In the Claims:

Please amend the claims as follows:

1. (currently amended) A method for conversion of waveguide modes from a mode of type TM_{01} to mode of type TE_{11} for transmission of power within ~~the~~ a microwave range, ~~wherein~~ the method comprising:

dividing an incoming power of mode type TM_{01} ~~is divided~~ between two or more waveguides with cross-sections essentially in ~~the~~ a shape of circle sectors, ~~wherein~~

phase-shifting the divided power ~~is phase-shifted~~ by the waveguides in a subsequent phase-shift section ~~by means of~~ with waveguides ~~with~~ having cross-sections essentially in the shape of circle sectors ~~being designed with~~ having different radii, ~~after which~~ and

changing the waveguides ~~are changed~~ into a common essentially circular waveguide that emits an outgoing power of mode type TE_{11}.

2. (currently amended) The method according to claim 1, wherein the conversion of the waveguide mode from mode type TM_{01} to mode type TE_{11} is caused, in an intermediate stage comprising four separate waveguides, to assume a field configuration for the basic modes of the respective waveguides that constitutes one quarter of a ~~so-called~~ TE_{21} mode in a corresponding circular waveguide.

3. (currently amended) A mode converting arrangement for conversion of waveguide modes from a mode of type TM_{01} to mode of type TE_{11} for transmission of power within ~~the~~ a

microwave range, comprising

an incoming waveguide for reception of power of the type TM_{01},

an outgoing waveguide for outputting power of the mode type TE_{11} and

a waveguidemode-converting section arranged between the incoming and outgoing waveguides, wherein the waveguide-mode-converting section comprises at least one input section for dividing ~~the~~ received power into two or more components and a phase-shift section at ~~the~~ an output side of the input section with an allocated waveguide for each power component, ~~with~~ wherein the waveguides ~~being designed with~~ comprise cross-sections that are essentially in ~~the~~ a shape of circle sectors with different radii emanating from a common center and such that the cross-sections in the shape of circle sectors together essentially cover 360 degrees.

4. (currently amended) The mode-converting arrangement according to claim 3, wherein the phase-shift section ~~is dimensioned to have~~ has a length in ~~the~~ a transmission direction of at least $\lambda_0/4$ ~~and, for example, of the order of $2\lambda_0$~~, where λ_0 denotes ~~the~~ a free-space wavelength of ~~the~~ a center frequency in ~~the~~ a band that is transmitted by the arrangement.

5. (currently amended) The mode-converting arrangement according to claim 3, ~~wherein~~ further comprising:

a mode-mixer section ~~is included in connection with~~ operatively connected to the outgoing waveguide, ~~which~~ the mode-mixer section ~~comprises~~ comprising a change from a plurality of waveguides with cross-sections in the shape of circle sectors to one waveguide with an essentially circular cross-section.

6. (currently amended) The mode-converting arrangement according to claim 5, wherein the change in the mode-mixer section ~~can be designed to be~~ is abrupt.

7. (currently amended) The mode-converting arrangement according to claim 5, wherein the change in the mode-mixer section is ~~designed to be~~ gradual, by the change having an extent in ~~the~~ a transmission direction that corresponds to at least $\lambda_0/4$, where λ_0 denotes ~~the~~ a free-space wavelength for ~~the~~ a center frequency in ~~the~~ a band that is transmitted by the arrangement.

8. (currently amended) The mode-converting arrangement according to claim 5, wherein ~~the~~ an output of the mode-mixer section forms the outgoing waveguide of the arrangement.

9. (currently amended) The mode-converting arrangement according to claim 3, ~~wherein~~ further comprising:

a balance section ~~is included,~~ connected to ~~the~~ an output side of the phase-shift section and comprising waveguides with cross-sections that are essentially in ~~the~~ a shape of circle sectors with the same radii, in order to balance ~~the~~ field configurations of the waves that leave the different waveguides of the phase-shift section.

10. (currently amended) The mode-converting arrangement according to claim 3, ~~wherein~~ further comprising:

an intermediate section ~~is~~ arranged between the input section and the phase-shift section, which intermediate section comprises a plurality of waveguides with cross-sections in ~~the~~ a shape of circle sectors and essentially identical radii.

11. (currently amended) The mode-converting arrangement according to claim 3, wherein the input section is ~~designed~~ configured to divide the received power into two components.

12. (currently amended) The mode-converting arrangement according to claim 3, wherein the input section is ~~designed~~ configured to divide the received power into four components.

13. (currently amended) The mode-converting arrangement according to claim 3, wherein the input section comprises thin ridges for dividing the received power, ~~which~~ wherein the ridges increase in size in ~~the~~ a transmission direction from ~~the~~ a periphery of the input section inwards towards ~~the~~ a middle of the input section so that they meet at the output side of the input section.

14. (currently amended) The mode-converting arrangement according to claim 13, wherein the ridges ~~are designed to~~ increase in size continuously in the transmission direction.

15. (currently amended) The mode-converting arrangement according to claim 13, wherein the ridges ~~are designed to~~ increase in size in steps in the transmission direction.

16. (previously amended) An antenna arrangement comprising a mode-converting arrangement according to claim 3.

17. (new) The mode-converting arrangement according to claim 4, wherein the phase-shift section has a length in the transmission direction of $2\lambda_0$.